

Daily Report

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Research

Visual SVM

Current I am still working on the implementation of new demo system (named as Visual SVM Demo 3.0 here). The following is a list of features that will be finished before the first qualification of Prof. Tung:

- **Main Tour View** The tour view is considered as main view in the demo 3.0. Initially the tour path will be limited around/along the decision boundary. The coordinates of projections will be refreshed once the projection matrix is changed. Some touring methods will also be supported (maybe after the first qualification). The user can lock the center of the view point onto the decision boundary and pan the view along it.
- **Projection Control View** This view contains a 2-D coordinate with a unit circle centered at $(0,0)$. Radial lines that start from the center of the circle are proposed to control weights of corresponding dimension. User can drag an endpoint of a line to adjust its length and angle. From lengths and endpoints of these lines the projection matrix can be derived and applied to the tour view.
- **Other necessary views** Data table is needed for displaying raw data; parameter panel contains a list of projection matrix and parameters of the SVM model.

After qualification, if Prof. Tung agreed this new idea and the demo system, some other parts will be added in the future:

- Complete control of the training process, i.e. setting training data and parameters for SVM training online but not using offline data that is doing now.

Problems

In Visual SVM Demo 3.0, almost all modules including data generator, web server and the web front-end must be re-implemented. Because it is quite different from the previous 3-D version, no codes can be reused from it. From the second half of week on I felt a little bit anxious about it and the process was slowed down comparing to last several weeks. In the future I need more practice on stress and time management, and accommodating with the rapid change of project plans.

Miscellaneous

- Preparations for the seminar.

Plan for Next Week

- Finish the CVM presentation slides on Monday;
- finish preparing for presentation in Wednesday's seminar;
- continue implementing Visual SVM Demo 3.0.